

# **COLLABORATION OF FARMERS IN DEVELOPING SMALL AND MICRO COMMUNITY ENTERPRISE CULTURE GROUPS: TACHEEN PLAIN SHRIMP FARMER GROUPS OF THAILAND**

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## **Introduction**

The activities of coastal aquaculture has been performed in Thailand for long times. The success in aquaculture activities makes Thai's farmers became leader in the shrimp farming both regional and international level. The acceptance of farmer's ability on farming becomes important and makes more profit margins to the farmers. However, the culture development resulted in previously change in culture system of farmers. Small-scale farmers meet several obstructions in their operation such as debt, environmental problems and problems of farm management. The persistent business culture tends to be occurred in groups of medium and large scale farmers. However, most proportion in farmer's structure was small-scale farmers. The development approaches that government should be considered is to support the small-scale farmers to participate in small and micro community enterprise (SMCE) in order to get a good quality supporting factors with low price and low cost. SMCE may reduce business risk, farmer's tension, and create collaborative exchange. These lead to achievement of solving the problems in long term and consistency in their business. The objectives of this research were to study types of groups and group member's behavior in group establishment and to study a strengthening development of shrimp farmers group and network creation.

## **Methodology**

Data collection was performed with shrimp farmers including 3 provinces of Samut Sakorn, Ratchaburi and Nakhon Pathom. The study groups were composed of

Samutsakorn SMCE shrimp farmers, namely “Sufficient Agriculture 49”, Ratchaburi SMCE shrimp farmers and Nakhon Pathom shrimp farmer’s group. Data were obtained by interviewing farmers with closed-ended questionnaire during August 2007 to August 2008. Seventy-seven representatives of shrimp farmers were obtained with the formula  $N/(1 + Ne^2) = 319/(1 + (319 \times 0.1^2))$  at 95% confidence interval and  $\pm 10\%$  permissible error.

Collected data was analyzed for the following descriptive statistics such as percentage, mean and standard deviation, median and quartile deviation. Inferential statistics for testing the correlation between variables was Spearman’s rank correlation coefficient.

## **Results**

### *General Information*

The study area of shrimp farmers including several districts in 3 provinces were Bang Phae district (56.4%) and Photharam (6.4%) Ratchaburi province, Bang laen (20.5%) Nakhon Pathom province and Ban Paew (16.7%) Samut Sakorn province.

About three-fourth of farmers were male (74.4%) and 25.6% of them were female. The average age was 46.5years old with standard deviation 9.5years old.

For the social status, the result found that 73.1% of farmers did not have any position in the community while 14.1% of them had only one position in the community and 12.6% of them had two positions in the community. Their positions in the community were group’s committee e.g. committee of village fund, village’s committee, committee of a saving group, committee of SML project, committee of village water supply system and communities’ committee. In addition, some farmers had a position in the community such as a village chief, village elder, assistant village chief, sub district administrative organization members and fundamental public health members.

The main occupation of farmers was the shrimp farming (82.1%), vender business owner (5.1%) and the fish farming (3.8%), respectively.

### *Type of culture*

For the experience on shrimp culture, of farmers had ever done the farming of shrimp 80.8%, farming of giant freshwater prawn 73.1%, and the farming of black tiger shrimp 43.6%.

At present, farmers did the farming of Pacific white shrimp (74.4%), the farming of giant freshwater prawn (60.3%) and the farming of black tiger shrimp (5.1%).

For number of shrimp pond, the median number of shrimp pond was 3 ponds and quartile deviation was 2 ponds. The minimum and maximum number of shrimp ponds was 1 pond and 30 ponds, respectively. In respect of the farming area, the median farming area was 15 rai and quartile deviation 15.75 rai. Minimum area of the farming was 1 rai while the maximum area of the farming was 250 rai, respectively.

On the part of production, most farmers derived the production from their farming (91.4%) but 8.6% of them did not. All farmers who do the farming of black tiger shrimp derived the production from their farming. Most farmers who do the farming of giant freshwater prawn derived the farming production while 10.6% of them did not.

### *Small and micro community enterprise (SMCE)*

Most farmers had participation about cooperative (70.6%) and 65.4% of them known that they are the cooperative member. About one-fourth of them had perception of news and information through cooperative leader, neighborhoods and family members. Only 11.8% of them apply to the cooperative system by themselves. The objectives for applying were the desire to apply loan and to receive supporting factors for production. Moreover, they desire to get the opportunity for training, increase their power authority, receiving Good Aquaculture Practice (GAP) and exchanging news and information

However, farmers did not know that they are a member of small and micro community enterprise, and they did not know the meaning of small and micro community enterprise. Most farmers had perception about news and information of farmer's group in their community (70.5%), namely a shrimp farmer's group, a

“Sufficient Agriculture 49” shrimp farmer’s group, Ratchaburi giant freshwater prawn farmer’s group, Bang Phae shrimp farmer’s group, Nakhon Pathom shrimp farmer’s group, a club of shrimp framers in low salinity area, Bang Lane shrimp farmer’s club and a club of shrimp farmers of Thailand. More than half of farmers known they are member of group in the community. For group participation, most farmers applied to be group member by themselves (80.9%) while the rest of them participated to group by suggestion of their cousins, their friends and their leader. Their anticipation to group were the desire to have news and information exchanging, increase their power authority and supporting to each others.

Fourty nine percentof farmers thought that they had perception about aim and objectives of group/ SMCE/cooperative at low level, the proportion of perception is less than 50%. The rest of farmers had perception at medium (the proportion of perception is between 50-75%) and high level (>75%) as 21.8% and 29.5%, respectively.

#### *Knowledge on shrimp culture*

Most of farmers had knowledge on farm standard (83.3%), water preparation (80.8%), shrimp seed preparation (82.1%), water quality management (79.5%), and disease management (75.6%). For knowledge in which farmers had less understanding was pond preparation and trace ability with an average score of  $66.2\% \pm 13.8$  (min 25.0% and max 90.0%). Farmers had knowledge at medium level (50-75%) and high level (>75%) as 64.1% and 17.9%, respectively.

When comparing knowledge of farmers between areas, farmers from Bangpae sub district had the lowest score ( $60.6 \pm 13.3\%$ ) which was significantly different from farmers in Photaram sub district ( $70.0 \pm 14.0\%$ ) and Banpaw sub district ( $71.0 \pm 10.0\%$ ) at 95% confidence limit ( $p=0.01$ ).

#### *Capacity and skill in shrimp culture and group establishment*

Result of assessment of capacity of farmers on shrimp culture following the standard farm management found that 24.4% of farmers thought that they have low capacity in shrimp culture (<51%) when 43.6% and 32.1% of farmers thought that they had

capacity at medium level (51-75%) and high level (>75%), respectively. Most of farmers thought that they have ability in water preparation for shrimp culture (93.6%), and GAP registration (88.5%) when half of them thought (55.5%) that they had no ability in data recording on household account monthly.

Assessment of farmer ability in group establishment and leadership found that 51.3% of farmers agreed that they had low ability (<51%), when some of them had medium ability (51-75%), and high ability (>75%) as 26.9% and 21.8% of farmers, respectively. Most of farmers had accepted to problems and suggestion from others (93.6%), collaborative working (92.3%), and coordinate with local shrimp culture farmers (88.5%). For the ability on being training or conference lecturer, farmers thought that they had no ability in this issue (70.5%) and they could not write a proposal for group/network development project (69.2%).

Group assessment in overall found that 56.4%, 33.3%, and 10.3% of farmers thought that they had low (<51%), medium (51-75%), and high ability (>75%), respectively. Farmers, who have social position, had ability and skill in working significantly higher than those who had no social position ( $p=0.05$ )

#### *Assessment of role and ability of leaders*

Farmers had assessed group leader ability to be at low level (44.9%) when 17.9% and 37.2% of farmers had assessed the leader ability in medium and high level, respectively. For the ability of leader in transparency working, they thought that leaders have low (44.0%), medium (21.8%) and high ability (33.3%) in this issue. Forty one percent of farmers thought that the sustainability of group is at low level, when 28.2% and 30.8% of farmers thought it to be at medium and high level, respectively. Farmers thought that members had operated with group at low level (41.0%) when 25.6% and 33.4% of farmers thought that members are at medium and high level in this issue, respectively.

#### *Characteristic of members in group establishment*

The opinion on characteristic of group members in the community in group gathering was at high level in the issues of social relation (87.2%), speech in communication for other understanding (80.8%), healthy of community members (79.5%), being

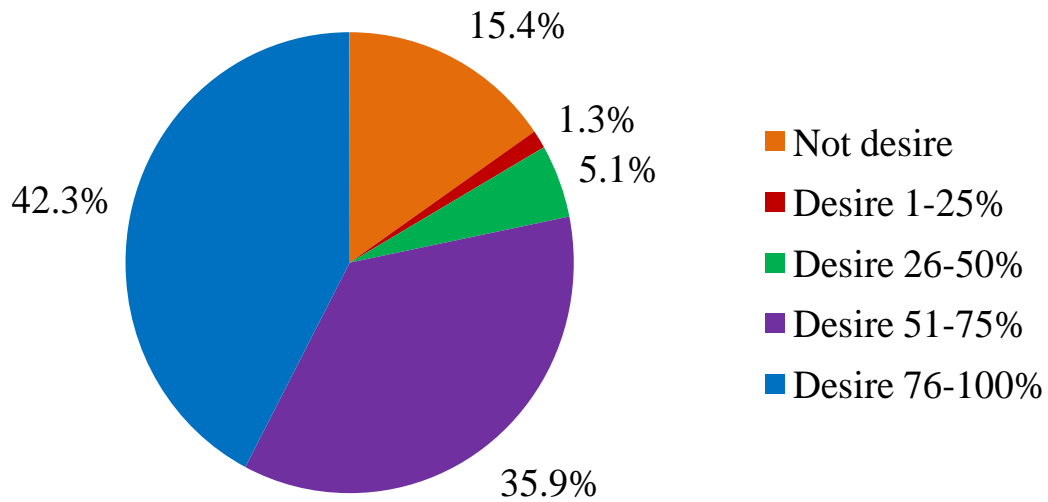
acceptable by community members in shrimp farming (79.5%), and knowing people who has related to shrimp farming (75.6%), and who has skill in shrimp farming (75.6%).

Community member characteristics to group establishment were at low level in some issues such as proficient of members on group, co-op, and SMCE group (30.8%), readiness in time (28.2%), and bend upon the duty (25.6%).

Characteristic of community members to group establishment in which need to be improved were proficient of members on group, co-op, and SMCE group (15.4%), realization on fishery situations and problems (12.8%), and time management (11.5%). Some issues that need to be strongly improved were enthusiastic of members (23.1%), disciplinary of members on group ideology (15.4%), confident feeling of members on group leader (12.8%), and readiness of members in time (12.8%).

#### *Opinion on group establishment*

For the opinion of farmers on group establishment, 42.3% of farmers had desired in group establishment at high level when 35.9% of them had desired at quite high level (Figure 1). They need to establish group due to the existing groups are not covered all they need. New shrimp farming group would lead to collaborative learning between shrimp farmers and provide activities in training on new technologies of shrimp farming which would benefit to shrimp farmers consequentially. The farmers would have shrimp farming development and farmers could negotiate on production factor cost and product price, supporting each other and increasing in shrimp farming security. Some farmers (15.4%) had no desire of shrimp farming group in the community because they thought there are already enough groups in the community. The establishment of new group would be difficult and have overlapped of members and some hidden benefit for some people.



**Figure 1** The desire of aquaculture farmers in group establishment

Farmers thought that group establishment and network development, such as collaborative and supporting between members (93.6%), security in shrimp farming (89.7%), knowledge on marketing and GAP (88.5%), and product quality for exporting (88.5%), is very important.

Farmers thought that it is unimportant in group establishment and network development in some issues e.g. supporting from SMCE group (43.6%), supporting from shrimp farm cooperative (33.3%), and supporting from academic institutes (26.9%).

Farmers thought that practices for group establishment and network development had high opportunity in some issues e.g. product quality for exporting (66.7%), farm management for GAP (59.0%), collaborative learning between shrimp famers (57.7%), farmer knowledge on GAP (56.4%), and technical knowledge of farmer (56.4%).

Farmers agreed that some issues had low opportunity in practicing e.g. supporting from the government, successful in group establishment in the community, and knowledge on resource management which each issue scored 48.7%. Issues, which farmer thought that members have no practicing opportunity, were supporting from

SMCE group (46.2%), supporting from shrimp farming cooperative (37.2%), and supporting from academic institutes (34.6%).

#### *News and information perception*

Farmers received news and information from fishery officers the most (70.5%) with the frequency of 1-3 time/year (50.0%). News and information perception from local leader were from village chief (25.7%), leaders of groups (23.2%), community committee (15.4%), and sub district administrative organization/municipality officer (11.6%)

For the sources of news and information which were private sectors (person/shrimp farmer), more than two third of farmers received news and information about fishery from family member (64.1%), and neighboring shrimp farmers (64.1% at <9 time/year). Farmers also received news and information from product seller (42.3%), store/product agency (39.7%), and shrimp product collector/middleman (17.9%).

Farmers received fishery news and information from mass communication such as television (61.5%), journals (61.5%), newspaper (46.2%), poster/brochure (43.6%), and radio (41.0%). Farmers got news and information from journal the most with the frequency of <9 time/year (29.5%).

#### **Discussion**

Cooperation of shrimp farmers in form of SMCE group establishment happened following the previous group in the community. Most farmers had no realization of being a member of SMCE group. Limitations of group were the lacking of farmers understanding to group, and lacking of collaborative learning. The strengths of group were the concentration of leader, development of group based on self-sacrifice and intention, and transparency and approvable of group.

The cooperation of farmers in SMCE group development analyzed on competency of farmers were knowledge of members, ability and skill in team working, assessment of role and ability of leader by members, characteristic of group members, and opinion of farmers on group establishment. Farmers had ability in developing SMCE group at low (<51%), medium (51-75%) and high level (>75%) as 7.1%, 50.0%, and 42.9%,

respectively. These had significantly related to news and information perception ( $p=0.000$  and  $r_s =0.418$ ). Management approaches in building cooperation of farmers in group development were knowledge development, collaborative communication, database preparation and transfer it to other groups, and building a collaborative learning by analyzing problem situation and carry forward all stakeholder to have participation. Building the strength of community member was based on the sacrifice of leader and members who must truly have participation in management.

## **Conclusion**

Development and problem solving of small-scaled farmers in the pass were lack of power in negotiation in some issues e.g. production factor providing, production cost reducing, and product selling at equitable price. Though farmers were member of more than one group and group establishment was from government institute mission, members still had expectation some benefit from government support. Farmers had no realization in being a member of group and the role of group. Group establishment was an illusion, and not happened from everyone intention in solving problems. As being out of date in problem solving of farmers and from their own experiences, farmers in many areas had turn to pay attention and cooperate in problem solving but still lack of participation in problem analysis. The limitations of leader were lacking of sacrifice, transparency, approvable, and understanding in role and duty, and some leaders had discouraged in working. Capacity development of leaders in order to obtain proper management should be done in a way of building cooperation of all stakeholders, building up spirit and will power in working, including increase learning of farmers in role and duty both as giver and taker, building systematic collaborative learning, and group/network development for true cooperation. There were five main principles for building cooperation of members. The first one was to build up common goals of group members and group need to increase its relationship value, including coordination between members, mission determination, and run continuous process. Secondly, group members need to have voluntary mind and work performance under will power in order to achieve good relationship among members and leaders. The third one was to build up participation and knowledge management. Farmers need to perform in establishing and determining goal together, percept and understand in the same direction, coordinate and analyze the need of members and build up collaborative learning of news and information. The forth one was to build

up relationship system and news and information both in leader and members in order to have common understanding and agreement. They should perform activities together considering of being taker and giver and build up communication channel of proper mass media. The last one was to connect and develop group transparency system by building up faith and reliance to group members, supporting each other members, setting up obvious approval system, and building up equality to all members.

### **References**

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